BURNS AND FIRE DISASTERS

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SUMMARY. A fire disaster took place on New Year’s Eve 2003 in a small closed environment as the result of a Molotov cocktail bomb attack. Seven persons suffered burns, two of whom died and five were hospitalized. The aim of this paper is to focus on the consequences of such explosions, which are numerous and cause extensive burns with fewer though more severe injuries when they occur in a closed environment than fire disasters in an open environment.

Introduction

One of the greatest disasters that can occur is a fire disaster. The greater the burn injury, the more likely it is to have a fatal or severe outcome. With the expansion of technology, fire disasters have increased in number. A disaster can evolve into an unexpectedly severe situation threatening public health. A fire disaster has a major effect in terms of material losses and human lives.\(^1\)\(^,\)\(^2\) If there are more than 25 victims the term “fire catastrophe” is used.\(^3\)

In fire disasters the condition of the people involved is precarious.\(^3\) If they occur in an area with limited access, the time interval between the accident and the initiation of care may be protracted. Burn injuries are usually associated with fractures, electrocution, or crush injuries.

The handling of a fire disaster is complicated since it involves several services that have to be co-ordinated. These include first-aid and emergency medicine personnel and the fire department, to eliminate the cause of the disaster and rescue the victims, as well as police officers to synchronize operations and clear people away from the accident area. A state of panic usually prevails in fire disasters, which makes rescue operations even more complicated.\(^5\)\(^,\)\(^6\)

The fire

On New Year’s Eve 2003 immigrants were celebrating in a small underground bar. Three others were refused entrance. Agitated and revengeful, they returned and dropped a Molotov bomb at the bar entrance. The fire trapped the people inside the bar. Some tried to escape by running out through the fire. Seven people suffered burns and were brought to our emergency department by ambulance. All these patients were seen by the plastic surgeons

Fig. 1-4 - Some of the patients.
and general surgeons on duty. Following triage, one patient was intubated in the emergency room and, having suffered 92% total body surface area (TBSA) burns and inhalation injury, was transferred to the intensive care unit (ICU). One patient, with 45% TBSA burns and potential inhalation injury, was resuscitated and also admitted to the ICU. One patient with 25% TBSA burns was resuscitated and admitted to our burns care unit, along with two more patients with approximately 10% TBSA injuries. Two other patients with injuries in less than 5% TBSA were given first aid and discharged and treated on an out-patient basis.⁷

None of the patients suffered any related injuries. The patient with 92% TBSA succumbed to her injuries after 48 h. The patient with 45% TBSA was transferred to a ward 7 days after the incident. The patients with 45% and 25% TBSA burns were subjected to debridement and skin grafting. The patients with approximately 10% TBSA were discharged the following day and followed up in the out-patient clinic (Figs. 1-4).

Discussion and conclusion

It is worth noting the differences between fire disasters occurring in closed environments and those occurring in open environments. In closed environments, limited quantities of flammable material can cause severe burns without any accompanying injuries, while in open environments large amounts of flammable substances can cause less severe burns but with several accompanying injuries.

It is extremely important that there should be a plan to handle disaster victims and that in the event of an actual major burn disaster this plan should be applied. Triage for burn patients can be divided into five categories. Minor burns in non-critical sites (< 10% TBSA in children and < 20% TBSA in adults) can be treated on an outpatient basis following tetanus prophylaxis and proper wound dressing. Patients with minor burns in critical sites (hands, face, perineum) should be admitted, and early surgery and special wound care should be considered. Patients with burns in 20-60% TBSA should be admitted to burn care units and handled by trained personnel. Extensive burns (> 60% TBSA) carry a high mortality. Patients with minor burns combined with inhalation injury or associated injuries should be closely monitored since appropriate ventilation or intubation may be required.

RéSUMÉ. Un désastre par feu s’est produit la veille du Jour de l’An 2003 dans un petit lieu clos après un attentat avec l’emploi d’un cocktail Molotov. Sept personnes ont subi des brûlures, dont deux sont mortes et cinq ont été hospitalisées. Les Auteurs de cet article se proposent de considérer les conséquences des explosions de ce type, qui sont nombreuses et causent des brûlures éten-
dues avec un nombre inférieur de brûlures mais plus sévères quand elles se produisent dans un environnement clos par rapport aux désastres qui se vérifient en plein air.

BIBLIOGRAPHY


This paper was received on 20 October 2004.

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